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APPENDIX II.

[Vide answer to question No. 1844 asked by the Zamindar of Gollapalli at the meeting of the Legislative Council held on the 30th March 1928, page 225 supra.]

Revised Syllabus for the Agricultural Middle School, Anakapalle.

First Year Class.

Vernacular.

Ananda 7th Standard Reader with the elements of Telugu Grammar according to any approved text-book.

Composition.

In addition to lessons in ordinary composition, reading and writing of pro-notes, sale-deeds, mortgage-deeds, cowls, kadapas may also be taught.

Geography.

1. The solar system, the sun and its planets.
2. Rotation and revolution of the earth, formation of day and night and the seasons.
3. Weather and its changes—thermometer and barometer and their uses.
4. Land and sea breezes; trade winds and monsoons.
5. Snow, fog, mist and rain.
6. The five zones and the fauna, flora and vegetation, etc.

Text-book recommended for use—Geography of the British Empire by Mr. K. Viraraghavachari.

Arithmetic.

1. Numeration and notation.
2. Four simple rules.
3. Compound quantities and volume: measure of length, weight, capacity, area and volume and tables of money and time.
4. A comparison of units of indigenous measures with those of the British measures.
5. Four compound rules.
6. Approximations.
7. Metric and decimal-system.
8. G.C.M, L.C.M. and vulgar fractions.
9. Problems involving fractions.
10. Casting of accounts—indigenous and foreign methods.
11. Angles and triangles.
12. Squares and rectangles and their areas.

Text-books recommended for use—

- (1) Lower Secondary Arithmetic (Revised Edition), by J. S. Deva-sabayam.
- (2) Elementary Mathematics Book III by V. Venkata Subbayya.

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Second Year Class.

Vernacular.

Macmillan 7th Reader with the elements of Telugu Grammar according to any approved text-book.

Composition.

In addition to lessons in ordinary composition, reading and writing of pro-notes, sale-deeds, mortgage-deeds, cowls, kadapas may also be taught.

Geography.

Madras Presidency, India—

- (1) Physical features.
- (2) Climates and effects.
- (3) Productions and exports and imports.
- (4) Facilities for navigation and commerce and trade.
- (5) People and their character.
- (6) Industries and occupations.
- (7) Towns and their importance.
- (8) Practical lessons on banking and co-operative credit.
- (9) Conversational lessons on patta, darkhast, remission, relinquishment, transfer, etc.

Arithmetic.

1. Rule of three—Unitary and other methods.
2. Practice—Simple and compound.
3. Percentages and averages.
4. Ratio and proportion (direct and inverse).
5. Profit and loss.
6. Interest—Simple.
7. Problems involving decimal fractions.
8. Square measure.
9. Cubic measure.
10. Areas of triangles.
11. Areas of irregular figures.
12. Time and work.
13. Time and distance.
14. Mensuration with special reference to practical survey.

Text-books recommended for use—Same as for first year class.

SYLLABUSES OF LESSONS IN AGRICULTURE AND ALLIED SUBJECTS.

First year.

Plant life.

[First term, May 15th to August 31st—14 weeks. Three lessons of 45 minutes a week.]

Various uses of plants to animals—plant and animal—ordinary plant—part above ground, shoot—part below ground, root—functions of parts—roots to absorb water and mineral matter, leaves, oxygen and carbon dioxide from air, stems and branches to support the leaves and get the maximum amount of sunlight.

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Constituents of a normal plant.—Water combustible part—not combustible part.

Respiration in plants.—Compare with animals.

Roots.—Main and lateral roots, rootlets, rootcaps, root hairs, growing, absorbing and conducting regions of roots—kinds of roots.

Stems—Solid hollow—underground stems—pith—wood, bark, soft thin active layer—no separate parts in single seed leaved plants but soft and tissue right across with harder portions irregularly scattered—not much growth in thickness—erect, prostrate and clinging and twining—habits of stems. Modified stems.

Leaf.—Parts of leaf, shape of leaf—venation arrangement of leaf to get sunlight. Simple and compound leaves, shedding and sleep of leaves—structure of leaves—function of leaves—formation of starch.

Buds.—Bud scales, dormant and adventitious buds

Flowers.—Parts, stock, sepals, petals, stamens (anthers and pollen)—ovary, style, stigma—compartments in ovary—ovules, bursting of anthers.

Function of floral parts.—Pollination—and fertilization.

Fruits.—Fleshy—dry—bursting and non-bursting fruits—grains of cereals.

Seeds.—Coverings—water-absorbing hole—place of attachment of seed in fruit.

Contents of seed.—Seed leaves—food material in seed—embryo shoot—embryo root—single seed leaved and double seed leaved plants.

Distribution of seeds and plants.

Germination of seed.—Causes and method of germination—How the young plant uses up the plant food in seed.

Growth in plants.

Branching by main shoots and by lateral shoots.

Types of plants.—Annuals—biennials—perennials.

II. Physics.

[First term, May 15th to June end—six weeks. Two lessons of 45 minutes a day.]

Matter.—Properties—hardness—porosity—Properties of liquids.

Properties of gases.

Atmospheric pressure.

Fluid pressure and Bramah Press.

Density.—Relative density.

Centre of gravity.—Equilibrium.

Fulcrum.—Uses—three orders of levers—steel yard—weighing machine—picottah.

Hand-ginning machine.—On the principle of wheel and axle.

Mhote run.—On the principle of inclined plane.

Lifting heavy loads.—With less effort by means of pulleys.

Oil-pressing machines.—On the principle of screw.

Heat expands and cold contracts—temperature.

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III. Chemistry.

[First term, July 1st to August first week—five weeks. Two lessons of 45 minutes a week.]

Composition of air—Oxygen and nitrogen.

Composition of water.—Oxygen and hydrogen.

Elements.—Compounds, molecules and atoms.

Mechanical mixture.—Chemical compound.

Metals.—Iron, calcium, potassium, sodium, phosphorus, magnesium silicon.

Non-metals.—Oxygen—hydrogen—nitrogen, carbon—sulphur—chlorine.

Acid.—Base, salt.

Organic substances, carbon hydrates—proteids.

IV. Soils.

[First term, August second week to August end—three weeks. Two lessons of 45 minutes a week.]

Soil.—Sub-soil—organic matters, clay sand, humus in soil.

Disintegration of rocks.—Soil formation—agents causing disintegration of rocks. Sun's heat—wind—rain—water—carbon dioxide—organic acids from roots of plants.

Action of rivers.—Formation of deltas—Locally formed and transported soils.

Water, air and temperature in soils.

Soil constituents.—Classification of soils.

V. Animal life.

[Second term, September second fortnight—two weeks. One period of 45 minutes a day.]

Soft-bodied animals.—Animals with bony structure—animals with hard outer shells.

Hoofed animals that chew the cud—horned animals—cattle, sheep and goats.

Digestive, circulatory and respiratory systems of animals.

VI. Insect life.

[Second term, October four weeks. One period of 45 minutes a day.]

The bodies of insects are divided into segments.

Life history of a butterfly and a grasshopper—egg, larva, pupa—adult stages.

Head and mouth parts—biting and sucking.

Breathing holes on sides.

Means of defence in insects.

Insects live on plants directly or indirectly.

Insect parasites.—Balance of life.

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VII. Fungus.

[November, first fortnight two weeks. One period of 45 minutes a day.]

Mushrooms—moulds on wet bread and decaying fruits—fungus seeds (spores), sporadic appearance of fungus growths.

VIII. Micro-organisms.

[November third week— one week. One period of 45 minutes a day.]

In soil—in silk and the root nodules of leguminous plants.

IX. Climatology.

[November fourth week and December first three weeks—four weeks. One period of 45 minutes a day.]

Factors influencing climate—distance from equator—height from sea level—nearness to the sea—position of mountain ranges and forests—nature of soil with reference to absorption of heat and moisture—nature of the slopes of land—wind currents—atmospheric pressure and humidity.

Rainfall—evaporation—concentration—cloud formation—drifting of clouds based on the influence of winds—condensation and precipitation.

Seasons.—Twelve months of the year divided into 27 Telugu karthies—months and karthies of south-west and north-east monsoons.

X. Rope-making.

[Third term, January last week—one week. One period of 45 minutes a day.]

Material used—process—kinds—uses of ropes to a farmer.

XI. Brick and tile making.

[February first week—one week. One period of 45 minutes a day.]

Material used—process—kinds and uses of tiles and bricks to a farmer.

XII. Agricultural operations.

[Third term, February second week to March end—seven weeks. One period of 45 minutes a day.]

Tools and implements required for the same under manual labour—cattle power and engine power.

Tillage—kinds of tillage—preparation of soils for receiving crops.

Country plough—parts—kinds of country plough.

Monsoon plough—parts—adjustment in the working of a monsoon plough—(iron mould board type)—difference between the work of a monsoon plough and a country plough.

Method of ploughing with a country plough and that of an iron mould plough—advantages and disadvantages of a country plough—timber used for the parts of a country plough—Scind plough type—ridge plough, type ploughs for special purposes—other iron ploughs.

Hand tools—crowbar—spade—digging fork—axe—mallets—rollers—clod crushers.

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Sowing and planting.—Winnow—basket, brush harrow—triangular and rectangular harrows—seed drill and guntaka.

Manuring—methods.

Interculturing—methods—handhoes—dantulu—other harrows.

Irrigation—methods—Water lifts—hand-watering pots.

Watering can—baling basket—picottah—mhote—oil-engine and water pump.

Harvesting—methods.—Sickle—bill hook—sugarcane mill—jaggery pan and accessories.

Threshing crops—methods.—Beating sticks—plank for hand threshing—cattle treading roller—winnows.

Staking hay and straw.—Hay forks—ropes.

Storing—methods.—Seedbins—gunnies—trash platforms for storing jaggery.

Fodder—chaffing implements.—Knife—sickle—chaff-cutter.

Second year.

[First term, May second fortnight—two weeks. One period of 45 minutes a day.]

Soils.—Points which determine the fertility or barrenness of soils—chemical condition—physical properties—presence of injurious salts.

Natural and added fertility of a soil—how to maintain the fertility of the soil.

[June first three weeks—three weeks. One period of 45 minutes a day.]

Manures and manuring.—Necessity for the application of manures to plants—form in which plants take substances to build up their bodies—atmospheric nitrogen—green manuring—potash—phosphates—bones—basic slaglime.

Cattle manure.—Quality—preservation of urine and dung by absorbing substances.

Green leaf manure.—Leaf mould—fish manure—sheep, goat and horse manures.

Oil cakes.—Silt.

Valuation of manures.

[June last week—one week. One period of 45 minutes a day.]

Surveying.—Plotting to scale—use of cross staff chain—offset rods—estimating construction—construction of cattle sheds, granaries and digging wells (practical side will be taken up in the field classes).

[July—four weeks. One period of 45 minutes a day.]

Cattle diseases and treatment.—Various needs of cattle to an Indian farmer—breeding tracts in the Madras Presidency—rearing of cattle in the Vizagapatam district—the buffalo, the sheep, and the goat.

Milch cattle—cheap maintenance swells the number of undesirable cattle—improvement of cattle-breeding—feeding—village grazing grounds—private grazing—management of herds—housing of animals—feeding milch cows—milk—butter—finding the age of cattle.

Diseases and treatment.—Foot-and-mouth disease—rinderpest—cowpox—anthrax—blackquarter—sorethroat—common ailments—jokegal—wounds—broken horn—diarrhoea—bloated stomach—retention of after birth.

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[August first three weeks—three weeks. One period of 45 minutes a day.]

Insect pests and control.—Insects attacking stored grains—insects injurious to man and cattle—the house fly—mosquito—pests of cattle—classification of insects from a farmer's point of view—injurious—beneficial—neutral—bees.

Popular control methods of insect pests.—Insecticides—spraying machinery—legislative enactments for the prevention of new pests—fungi—diseases and throat.

[August last week—one week. One period of 45 minutes a day.]

Symptoms of disease by fungi in plants—principles of control of plant disease—selection and breeding of resistant varieties—seed disinfection—spray fluids and powders—some common diseases as the green ear disease in cumbured rot in sugarcane and the palmyra bud rot.

[Second term, September second fortnight—two weeks. One period of 45 minutes a day.]

Agricultural plants.—A botanical study of—paddy—cumbu—ragi—sugarcane—groundnut—cow-pea—sunn hemp—Dhaincha cotton—gogu—gingelly—onion—sweet potato—chillies—brinjal—turmeric—plantain.

[Second term, October four weeks. One period of 45 minutes a day.]

Gardening.—Laying out—tillage—manuring—propagation—watering—after cultivation—pruning—preservation of fruits and vegetables—avenue trees—vegetables—fruit trees.

[November first fortnight—two weeks. One period of 45 minutes a day.]

Labour data of farm operations—Clearing jungle—ploughing—crow-barring—sowing—planting—drilling—carting manure—spreading manure—interculturing—trenching—weeding—harrowing—wrapping canes—irrigating—harvesting—threshing—watching crops.

[November second fortnight and December three weeks—five weeks. One period of 45 minutes a day.]

Principles underlying cropping—factors influencing agriculture in a country—selection of a farm—virgin land—clearing bushes—levelling—digging drains—terracing—construction of cattle sheds, wells, etc. Importance of a ryot living on his holding—fences and hedge plants—paths—farm yard—economy in irrigation—conservation of moisture in the soil—mulching—quantity of water required for crops—sources of irrigation.

Propagation by seed—selection of seed—pedigree influence—improvement of seed.

[Third term, January third week and three weeks in February—four weeks. One period of 45 minutes a day.]

Crops.—Classification of crops according to nature of produce—rotation of crops—mixed cropping.

Cereals.—Paddy—ragi—cumbu—maize—cholam.

Pulses.—Redgram—horsegram—black and green grams—bengalgram and cow-pea.

Fibre crops—Cotton—gogu—sunn hemp.

Oil-seeds.—Gingelly—groundnut—castor—fodder crops—cholam—sunn hemp.

Green manure crops.—Sunn hemp—dhaincha and wild indigo.

Narcotics.—Tobacco.

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Condiments and spices.—Chillies and coriander.

Root crops --Sweet potato—tapioca yams.

Money-giving crops.—Sugarcane—onion—plantain—coconut.

[Third term, February last week—one week. One period of 45 minutes a day.]

Marketing produce.

Communications in India.—Agricultural products and manufactures of India—chief inland centres of trade.

[Third term, March first fortnight—two weeks.]

Village life.—Land and tenure—sanitation—co-operation—rural credit—farmer's relations with revenue—agricultural—Veterinary, Forest and Public Works Departments—local boards and Legislative Councils.

[Third term, March third week.]

Examinations.

APPENDIX III.

[Vide answer to question No. 1849 asked by Swami A. S. Sahajanandam at the meeting of the Legislative Council held on the 30th March 1928, page 239 supra.]

(i)

Statement of members of district boards belonging to the depressed classes appointed by the last Ministry.

District Board.	Name of Member.
Anantapur ...	M.R.Ry. C Rangaswami Pillai Avargal.
Arcot, North ...	P. Adimulam Avargal.
„ South ...	G. Devanayagam Avargal.
Bellary ...	Vetti Ramappa.
Chingleput ...	P. V. Subrahmanya Pillai
Cuddapah ...	Galipotha Venkatayya Garu.
East Godavari ...	Undur Tatayya Garu.
Ganjam ...	Karivika Malleru Garu.
Guntur ...	Moondra Jiyadoss Garn.
Kanara, South ...	Kodialbail Angara Avargal.
Kistna ...	Pandula Subbarayudu Garu.
Kurnool ...	Madiga Ramanna Garu.
Do. ...	Maladan Nagappa Garu.
Madura ...	Palni Ramalinga Samban Avargal.
Malabar ...	Aramban Gopalan Avargal.
The Nilgiris ...	V. I. Muniswami Pillai Avargal.
Ramnad ...	S. Arunachala Kudumban Avargal.
Salem ...	Usheni Varadayya Avargal.
Do. ...	Kolar Subrahmanyam Avargal.
Tanjore ...	Attukara Marudan Avargal.